PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

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Peace/Williston Compensation Program:

5 Year Review (1988-1993)

H. Andrusak, D.W. Craig, and F.G. Hawthorn

October 1994

PWFWCP Report No. 286

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

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Citation: Andrusak, H., D.W. Craig, and F.G. Hawthorn. Corbould, F.B. and P.E. Hengeveld. 1994. Peace/Williston Compensation Program: 5 Year Review (1988-1993). Peace/Williston Fish and Wildlife Compensation Program Report No. 286. 28pp plus appendices.

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The Peace Williston Compensation Program was instituted in 1988 to fulfil, in part, the requirements of BC Hydro's water licences for Peace River hydroelectric developments. Since then significant effort has been expended to develop and deliver fish and wildlife enhancement programs in the region; to date approximately $4m has been spent. Additionally, some effort has been directed at developing administrative and management procedures to better define the principles of the Program. A comprehensive review of the Program, at every 5 years, is required by the Memorandum of Understanding on Compensation Programs agreed to by BC Hydro and BC Environment.

Accordingly, and in fulfilment of this requirement, the attached report presents the results of the first 5 Year Review of the Peace-Williston Compensation Program. The authors wish to acknowledge the positive cooperation of all concerned with this Program in providing information and reviewing the draft report. The Summary of Findings and Recommendations are solely those of the authors which we believe are firmly based on the findings and needs of the Program. We would also note that there was no precedent for such a Review and that a methodology and report structure was therefore developed for it; this has proved both challenging and rewarding.

The Review Team would be happy to meet with you to further explain or expand on the findings and recommendations at your individual or collective pleasure.

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PEACE-WILLISTON COMPENSATION PROGRAM

5 YEAR REVIEW

19 OCTOBER 1994

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1.0 INTRODUCTION

The WAC Bennett Dam, near Hudson's Hope, B.C., was completed in 1968 and thereby created Williston Lake reservoir the largest fresh waterbody in the Province. Approximately l800sq km in extent, it flooded out large tracts of high quality wildlife habitat and converted several hundred kilometres of riverine fish habitat to a reservoir environment. This development was undertaken in an era before environmental assessment processes were formalised. As a result, no detailed inventory was undertaken of the natural or social resources that were to be affected by the project. Nevertheless the water licence did include a clause to the effect that 'the licensee shall undertake and complete such remedial measures for the protection of fish and wildlife as the comptroller may direct...".

The Peace Canyon Dam, approximately 18km downstream of WAC Bennett Dam, was completed in 1980 and created the run-of-river reservoir of Dinosaur Lake. The water licence for this project contained a similar, but different, fish and wildlife clause, to that of the Bennett Dam and a program was established in 1981, soon after the reservoir was created, namely, a fish hatchery operated as a five year test assessment of stocking Dinosaur Lake with rainbow trout. In 1988, the hatchery was shut down due to poor success. Also in 1988, the BC Government and BC Hydro jointly announced "a major program to enhance local fisheries and wildlife" on Williston Lake. The initial program was intended to be a five year $10 million program (half for wildlife and half for fish) but was later (1989) modified to include the notion of a perpetual fund, the earnings from which would be used for fish and wildlife enhancement projects. In 1990, a further $1 million was added to the fund to compensate for fish impacts (and the shutting down of the hatchery) on Dinosaur Lake.

Since 1989, approximately $3.3 million has been spent on a wide variety of projects to enhance habitat, stock fish, transplant wildlife and consult with the public. Initially it was anticipated that BC Hydro (BCH) would transfer the monies to the Ministry of Environment and not participate actively in the Program. However, in part due to the terms of the Water Licence and in part due to a changed approach to environmental issues in BC Hydro the Corporation and Ministry agreed to jointly develop and operate the Program.

Management structures in the form of a Steering Committee and two Technical Committees were established and staff hired. In 1992 a Memorandum of Understanding was agreed to between BCH and Ministry of Environment, Lands and Parks (BCE) which established the Technical Principles of the Program. The administrative management and financial arrangements for managing the Fund remained evolutionary and adhoc. In mid 1992, an attempt was made to firm up the Organisational and Financial Principles by which the program would operate. Agreement in principle, was obtained on the establishment of a separate entity for Program deliverythrough a Society, with an administrator and modified roles for the existing Steering and Technical Committees. Attempts to put this agreement into practice met with difficulty due to a variety of administrative issues primarily related to the application of the Goods and Service Tax and employee benefits. A reassessment was clearly desirable. The Memorandum of Understanding and the failed Organization and Financial Principles proposal both indicate that after each five years of operation a Review should be undertaken to determine if changes to any aspects of the Program were necessary.

In December 1993, a review committee comprised of:

H. Andrusak	Manager, Fish Culture	BC Environment
D.W. Craig	Manager, Management Services	BC Hydro
F.G. Hathorn	Manager, Environmental Planning, Performance and Awareness	BC Hydro

was struck to carry out this Review which had the following objectives:

- Examine and assess the operations of the Peace Williston Compensation Program including its Technical Direction, Organisational and Financial Status and administrative procedures.
- Examine and assess the methods used and results achieved by the Program in light of its goals, objectives and scope.
- On the basis of the findings make recommendations regarding organisational arrangements, administrative procedures, technical scope and financial requirements of the Program and the need for, and structure of an agreement between BCH and BCE to formalise these program structures.

The study team established a Review format (Appendix A) and initiated the process in December 1993.

2.0 SUMMARY

1.0 Overall Assessment

This summary has been arrived at by the Review Team based on the findings contained in Section 4 of the Report.

The Peace Williston Compensation Program has been in a state of ongoing evolution since its inception a little more than five years ago. The concept of a joint program, with technical and steering committees and a long term funding formula was new to both parties and the formalizing of protocols became essentially subordinate to the practical implementation of projects to benefit fish and wildlife resources. Regardless of whether or not this is good management practice it has had the effect of fostering a culture of cooperation between the partners which has been productive and helpful.

There have been attempts to place the Program on a more effective administrative footing but these were not successful due to practical implementation difficulties rather than weakness of concept. The time, however, has come when this must be addressed and specific recommendations are made in this regard.

The intent of this Program is to undertake work that would benefit the fish and wildlife resources affected by the construction of WAC Bennett and Peace Canyon Dams. Broadly speaking, it would appear to have been successful in this endeavour. However, the Review Team considers it important to now establish more clearly the goals/objectives (quantified if possible) and principles of the Program so that such conclusions can be made with greater certainty.

Throughout this examination it has been apparent that those involved in the Program are strongly motivated towards it achieving success. This includes members of both Technical Committees as well as staff members of both BCE and BCH. The Program biologists, who have delivered most of projects undertaken, have displayed a commendable level of enthusiasm and commitment which has greatly contributed to the Program's successful launch.

2.0 Findings

1. The Peace-Williston Compensation Program is a successful partnership between Government, Industry and the public to address impacts of a major hydroelectric development. Much of the work over the past five years have been developmental in nature and the time is now right to more firmly define its operating protocols.

2. The concept of a long term Program financed by earnings from a capital fund, is a useful vehicle for addressing such impacts.

3. Goals, values and principles have been implicitly adopted by those closest to the program and are reflective of the two founding partners BCE and BCH. However they have not been explicitly developed and communicated. Further, the geographic study area needs to be more clearly defined.

4. The present organisational, administrative and financial arrangements function loosely and considerable improvements can be made by defining them clearly. There are many overlaps and inconsistencies which need to be eliminated.

5. Strategic Plans for fish and wildlife components usefully set those areas upon which the Program should concentrate. Public input to these Plans was most helpful.

6. Annual projects are identified, selected and approved by a thorough process that includes input from the public and consideration of opportunities for project implementation by public groups.

7. The Program has made good strides in becoming known to both the public and local interest groups. However there is concern that its profile in some areas of the watershed has not been optimised and further effort is needed to improve input from the general public.

8. Reporting the results of annual projects and the status of Program finances, although improving, need to be made more rigorous.

9. There has been no attempt to directly relate the enhancement projects undertaken by this Program to the impacts of the Peace hydro reservoirs. Nor has there been an effort to link quantitatively the enhancements undertaken to the number of additional animals or fish. To do this would be extremely expensive and even then probably imprecise.

3.0 Recommendations

1. a) A clear statement of the Goals/Objectives and Principles of the Compensation Program is required. The general Memorandum of Understanding on compensation programs is helpful but there remains the need for direction to be provided specifically for the Peace Williston Program.
   b) it is expected that these goals will be quantitative and that some such measures should be attempted.
   c) Because there is no certainty or measurement of benefit from these programs, a periodic review process should be continued with the potential that criteria be established for determining when the programs' goals and objectives may be met.
   d) Once developed they must be widely communicated within both BCH and BCE and to the Public.

2. The operations of the Program must be improved by developing an organisational and financial framework that will include the following:

   - A single organisational structure separate from the operations of both BCE and BCH for project delivery.
   - Clearly defined representation and roles for Steering and Technical Committees and the project delivery group within the structure.
   - A single administrative system and supervision of staff, personnel issues, cost control, contracts, etc.
   - A staff location plan that matches activities, resources and management needs.
   - A defined mechanism for fund management and improved reporting of fund status and project expenditures.
   - A Program Manager (perhaps part-time) to provide a focal point for the Program and manage its affairs.

3. The study area should be confirmed as the watershed upstream of Peace Canyon Dam; the Technical Committees should be instructed to review the biological rationale for extending this area to address present operational effects downstream of Peace Canyon and recommend a specific boundary. The criteria for this review should ensure that it focuses on fluctuations in flows as they affect fish and wildlife directly

4. Efforts need to be made to improve the level of awareness of the Program by the general public. In particular these efforts must ensure that information is made available equitably across the entire study area.

5. Continued discussions with Aboriginal Groups are required to maintain and enhance their involvement in the Program.

6. There is no definitive rationale for the level of Peace Compensation Program funding and it is therefore uniquely based on historical agreements and agreed upon adjustments there to since its inception. It is recommended that the existing formula for annual available funds be maintained but with additional funds being added to cover the costs of the Program Manager on the basis of administrative cost savings.

7. A formal administrative agreement between the Province and BC Hydro is required covering the above items.

3.0 EVALUATION - PROCESS

A copy of the Review Format used by the Review Team is contained in Appendix A. Evaluation of the information obtained during the interview stage was considered in terms of two primary program components:

- Management
- Programs

These components were further analyzed on the basis of the following elements which were then considered in the context of specific characteristics.

1.0 Management

1.1 Culture/Work Environment

- The extent to which the organization's work environment is conducive to the achievement of it's mission. This includes a review of the organization's values, principles and policies including the processes and systems that the organization uses to create its working environment.

- The extent to which the organization's behaviour is consistent with corporate values, the work environment is positive and healthy, and staff development is appropriate. This includes a review of the perceptions, attitudes and behaviours of the organization's people and their interaction with each other.

Characteristics:

Staff's behaviour is consistent with corporate values:
- integrity: actions match words;
- commitment: enthusiasm is contagious;
- innovation: new ideas are tried and mistakes are learned from;
- teamwork: staff work together towards shared goals;
- empowerment: staff have the responsibility to act and do.

Area's work climate is healthy and positive:
- work activities carried out safely;
- communication within the area is open and clear;
- employees view being part of the area positively;
- problem areas identified and addressed;
- employees treated equitably and with respect.

Staff development is appropriate:

- staff know expected performance and receive feedback and reinforcement regarding actual performance;
- staff receive adequate support to become proficient at their job;
- staff receive opportunities and support for career development.

1.2 Management Direction

- The extent to which the organization has clearly defined objectives and management processes that focus the organizations ability to translate its vision and mandate into action plans.
- The extent to which managements plans and strategies are clear, well integrated, accepted, understood and appropriately reflective of the organizations vision, mission and objectives.

Characteristics:

- exist and are clear and documented;
- are well thought out (good planning process);
- are consistent with higher level direction, integrated and complete;
- are appropriately specific and measurable;
- are known, understood and supported by necessary parties.

1.3 Monitoring and Reporting

- The capability of the organization to track it's ability to be successful through a review of the adequacy and meaningfulness of the areas being monitored and reported on.

- The mechanisms for collecting, sorting, storing, transforming and reporting of data for information feedback on key business areas.

Characteristics:

- adequacy and meaningfulness of the dimensions being tracked;
- adequacy of the information systems in these tracking areas;
- identification and monitoring of key factors affecting effectiveness;
- communication of the above information to the relevant parties in a clear, useful and timely manner.

1.4 Implementation

- The program's organization and change implementation processes. The processes which allow the program to organize, plan and improve it's service.

- The structural components required to enable service improvements, the methods and processes used to determine specific improvement actions, and the set of practices used to put improvement actions into operation.

Characteristics:

- flexibility to be able to respond to changes;
- recognition of need to respond to reported variances and changes;
- ability to successfully implement necessary changes;
- pro-active approach resulting in continuous improvement.

2.0 Programs

2.1 Customers

- The organizations markets, customers, products and services. The specific products and services being delivered by the various components of the organization.

- The identification of the people, groups or organizations who receive a product or service from the organization.

- The mechanisms for product/service delivery.

- An assessment of the customer relationships.

Characteristics:

- acceptance of area's role and mandate;
- understanding by the area of various parties' interests, needs and expectations;
- satisfaction by various parties with all relevant aspects of the area's performance;
- satisfaction by various parties with the relationship with the area and the processes and methods employed;
- recognition by the various parties of value added by the area.

2.2 Operations

- The organizations operating performance including all work activities undertaken to satisfy customer needs and manage stakeholder relationships.

- The organization is organized and resourced effectively;

- The organization's cost and productivity results through assessment of actual results relative to plan, benchmarking data competitors, historical and theoretical results.

Characteristics:

Organizational structure is appropriate:
- logical and functional (effective and efficient);
- aligned with strategic direction;
- roles and responsibilities clear and accepted.

Work processes are appropriate:
- achieves timely and consistently high quality output at lowest reasonable cost;
- adequate supporting procedures and systems in place.

Resources are appropriate:
- suitable type, source, quantity, quality, cost and availability;
- appropriate allocation across products and services.

Results are achieved:
- comparison with area's results objectives and targets;
- suitability of established objectives and targets;

Cost & Productivity:
- adequacy of planning, tracking and comparison processes;
- actual results compared to plan, historical levels, peer areas, competitor's and theoretical levels;
- value for money of the product/service received;
- area's attention to and attitude towards;
- quantity and quality of actions taken and their success.

2.3 Stakeholders

- The impact of the organization on it's stakeholders (exclusive of customers and shareholders). Stakeholders are defined as individuals, groups or organizations who are affected by the organization over time and thus have special needs regarding the organization.

- The organization's ability to meet and manage stakeholder expectations, including an assessment of the extent to which stakeholder requirements are given consideration by the organization and the extent to which the organization has affected it's stakeholders over time.

Characteristics:

- existence of stakeholders
- awareness of shareholder expectations;
- existence of impacts on stakeholders;
- awareness by the area of such impacts;
- incorporation of such impacts and expectations in the area's planning and decision making.

2.4 Shareholders

- The extent to which the organization satisfactorily accounts for its revenues, expenses, assets and liabilities.
- The adequacy of the control processes concerning financial processes and the reporting of financial results.

Characteristics:

- well-designed processes that should control key risks at a reasonable cost;
- control processes that are working as planned;
- accurate, complete and timely financial information reported.

4.0 FINDINGS AND DISCUSSION

1.0 Management

1.1 Culture

As noted in 1.0 Introduction, the approach adopted in 1988 for the administration of the Peace Williston Compensation was a significant departure from previous practice. The concept of a joint undertaking between BCH and BCE understandably created uncertainties in both organisations. It was recognised that new relationships would have to evolve and traditional roles would therefore be challenged.

The values and statutory responsibilities of BCE are focussed on the management of fish and wildlife resources, air and water quality and water management. Hydro on the other hand is responsible for electricity generation, transmission and distribution across most of B.C. In 1988 when the Compensation Program was initiated BC Hydro was commencing a process of greatly enhancing its environmental awareness and recognizing its environmental obligations.

Initially, work was undertaken by existing Ministry and Hydro personnel. It was expected that BCE would hire senior staff in Prince George and Fort St. John to deliver ongoing projects. BCH provided technical support, via contract initially, and then through term positions. In time, as BCE staff "turned over", Ministry policy prevented their replacement and staff were hired by BC Hydro and consolidated in Prince George.

Much has been achieved in the past five years as two distinct cultures have teamed up to address a common Program. It has been evolutionary and has benefitted from good will on both parts as confidence in each others' values and principles have grown. It has not been without disputes but these have been addressed in a productive fashion. The process is continuing and some divisions of attitude prevail particularly as regards home groups, reporting lines of staff etc. However, there is a high potential for these to be solved more on the basis of what would benefit the Program rather than traditional "turf' issues. There does remain some difference of opinion as to whether or not a "Program", as an entity does or should exist. BCH and most in BCE and the public, view it as essential that the Program, including or even especially the delivery of projects, be separate from both BCE and BCH. However, some regional staff of BCE indicate a preference for project delivery to be an integral part of The Ministry operations.

The move towards a sustainable program, funded over the long term, has its basis in the fact that biological systems require many generations to establish a new and different level of stability following major impact.

Findings

1) The basis of the Program in terms of its intent have been established, jointly, by BC Hydro and Government. Values and principles for the Program have not yet been consolidated and communicated.

2) The concept of a joint undertaking for the Program is valid given the roles that each partner plays. However some within BCE would prefer that the delivery of projects be undertaken by The Ministry and not through a delivery process that is jointly operated.

3) There is clearly a willingness and a desire in both Hydro and the Ministry to work together to a common goal. This was apparent at all levels of both organisations and is working well.

4) Program biologists belong to both BCE(fish) and BCH(1 fish, 2 wildlife). There are differences in group levels and benefit packages between the two agencies.

5) While the program is recognised in both BCE and BCH and the public, there is still no single, coherent administrative entity that is "The Program".

1.2 Direction

With the signing, in 1992, of the Memorandum of Understanding (MOU), the Program has a set of principles which clearly establish its purpose and mandate. The intent of the MOU was to be broad in its direction and not to establish quantitative objectives.

Communication of the MOU appears to have been incompletely done both internally, to BCH, BCE and Program staff, and externally.

In mid 1992 an attempt was made to specify details of the organizational and financial principles for the Program. Agreement between BC Hydro and Ministry of Environment, Land and Parks was obtained on the concept of a Society but difficulties were experienced in the practical application of the organisational aspects, notably due to such factors as employee benefits, union differences and the effect of the GST on program operations.

The Program structure of Steering and Technical Committees and Program staff has evolved overtime. Initially, only informal technical committees existed and they focussed on getting the Program started. Pressure was placed on these groups to achieve early results and they therefore looked to extensions of some B.C. Environment projects to provide them. With the appointment of the Steering Committee, the Technical Committee composition was formalized and strategies for financial management and Fish and Wildlife programs were developed to provide for more ordered direction. The process of consolidating the Program into a single cohesive effort commenced.

Of notable mention was the development of Fish and Wildlife Plans which established the technical scope and direction upon which the Program would concentrate. These Plans were presented at the first public consultation workshops held in the communities surrounding Williston and Dinosaur Reservoirs. Public input was both timely and valuable and resulted in redirecting the Plans in several important areas most notably towards greater biological diversity.

The Program, as announced in 1988 by the BC Hydro Chairman and Minister of Environment, was focussed on Williston Lake but no clear boundaries were established. The study area continues to be imprecisely defined, and encompasses the watershed upstream of Peace Canyon Dam plus a number of adjacent areas and tributaries that join the Peace River downstream. These latter areas were included to help address fisheries compensation needs of Peace Canyon where local opportunities were few. Recent events of low flow on the mainstem Peace downstream of Peace Canyon has raised the question of how far downstream the study area of the Program should extend.

The Program is structured on the basis of a Steering Committee, two Technical Committees and what is essentially a Program delivery group (see figure). Within this structure, the Steering Committee sets the rules, approves annual budgets and provides overall Program leadership. The Technical Committees provide leadership in the development of fish and wildlife projects. In each case Committee Chairs rotate regularly to avoid the perception of bias but, while this has been successful, it has resulted in the lack of consistent leadership. Both of these leadership roles are focussed internally to the Program and this is essential to efficient and effective operation. Program Biologists are the most visible components of the Program as far as the public is concerned. However, across all of these groups there is no single clearly recognisable entity which constitutes the Peace-Williston Compensation Program.

The process of evaluating and selecting projects and then recommending them for approval by the Steering Committee is undertaken annually, by the two Technical Committees. Projects are brought forward for consideration from many sources, including, the Program Biologist, BCH and BCE members of the Technical Committees and from the Public. The candidate projects are evaluated on the basis of biological merit, including biodiversity, location, costs, continuity with previous year's work and consistency with Fish and Wildlife Plans and BCH and BCE policies and directions. In addition, opportunities for involvement in funding and/or implementation from outside groups is considered. Links to the intent of the overall Program are apparent but seldom explicitly identified.

Annual projects are prioritised by the Technical Committees. Both committees focus initially on enhancement projects and are attempting to establish a base level of effort for this category of work. For wildlife, this focusses on habitat improvements, such as prescribed burning. For fisheries, improvements to spawning and rearing habitat and the stocking of lakes and streams have been the focus. The balance of available funds are then allocated to other aspects as identified in the Fish and Wildlife Plans with the broad intent, at this stage in the Program, of balancing assessments for new enhancement work, actual enhancement activities and monitoring of that enhancement.

There has not been consistently good communication between committees. In addition there are many linkages between program staff, projects and the public which are being maintained but which could just as easily fail due to lack of clear leadership.

Findings

1) The MOU is a useful and appropriate set of principles which describes the purpose of the Program.

2) Detailed knowledge of the MOU appears to be lacking both internally and externally and this reduces its effectiveness.

3) Financial and organisational principles for Program management have not yet been clearly defined and agreed upon.

4) Plans for both fish and wildlife programs have been prepared with public input and provide sound strategies for the Program. These Plans would benefit from a review based on the results of work done to date.

5) Line Managers from both BCE and BCH have from time to time provided management to the program. In addition, the Steering and Technical Committees have also provided management. Program biologists have also been required to perform administrative tasks. For those involved there has been at least only 'part time" management of the program.

6) There are inconsistencies between the two technical committees, (eg administration, study area). The Steering Committee has a history of poorly communicating its direction to the Technical Committees. Though this has recently improved, it appears largely dependent on the respective chairs and these change regularly.

7) The public have provided, input to, and has participated in the development of Fish and Wildlife Plans.

8) The study area has not been clearly defined in the past. In addition, new concerns require that downstream issues also need to be considered. A clear statement of the geographic bounds of the Program is not available.

9) Measurable, high level biological objectives for the Program are not available. Although this may be understandable given the developmental nature of the Program it appears to be a significant omission. It should also be recognised that it may be difficult to achieve.

10) The Program is not recognised by the broad public. The role and operation of the Steering and Technical committees are also not understood by the Public. On the other hand the Program biologists have worked hard to publicize the Program and are generally well recognised by the public except in the Peace area. This focus is the most desirable, but the biologists at times appear to be from separate entities, ie. fish and wildlife and not as different components of a single Program.

11) The process of selecting projects for implementation takes place annually according to a defined schedule and set of criteria consistent with Steering Committee directives. The process, criteria and schedule are appropriate.

1.3 Measurement

The Steering Committee provides information on the quantity of money available for the next year and projects are optimized by the Technical Committees to make the best use of this money as per the above criteria.

Annual projects are then presented to the Steering committee for their approval. In the past, there has been regular uncertainty regarding the amount of money that is annually available to the Program. As a result there have been projects which were delayed or deferred and this uncertainty has adversely affected perceptions of the Program particularly among the Public.

The Program has focussed on habitat improvement as the means of meeting its goal to sustain and enhance fish and wildlife resources. Many different parameters are measured as projects are devised to meet this objective and the number is likely to increase as new techniques for enhancement are tested. It must be recalled that projects proceed through three broad phases, namely assessment, enhancement and monitoring, and different parameters may be measured in each phase. Examples include: area surveyed for vegetation type, area burned, success of burn; or number of fish stocked, presence or absence of existing stocks and number of fish returning to spawn.

Reporting of Program results has been inconsistent. The Steering Committee has recently confirmed it's requirements for quarterly progress reports and annual reports for fish and wildlife annual programs. However, there is no unified annual report for the program as a whole. The reports that are prepared focus on the success or otherwise of individual projects and do not refer to, or position these projects within, the context of the Fish and Wildlife Plans.

Administrative systems for the Program are inconsistent. Spending is undertaken by both BCH and BCE. BCH establishes Work Orders for the control of spending through BCH and issues Purchase Orders to BCE for work which they (BCE) are to undertake. The fish program for example, control work through all of BC Hydro, BCE Ft. St. John, BCE Prince George and BCE Victoria. Contracts may be let under either BCE or BCH systems. When issued under BCE auspices, invoices are paid by BCE and BCE then invoices BCH and is reimbursed. Invoices from outside contractors are not always passed through the Program biologists for verification prior to paying and though this has improved recently it has in the past and on occasion continues to result in unnecessary and time consuming searches to ensure that costs are properly assigned. Program biologists are now making good progress at monitoring total Program costs but it is still done inconsistently between the fish and wildlife components and there remains no system for financial management. This has resulted in uncertainty in what was spent and on what program. In particular, problems occur annually at fiscal year-end regarding accruals where it seems the two systems have differing requirements and terminologies.

There are also inconsistencies in contractor selection/administration and, as with reporting, there is no established Program norm for contractor management.

Findings

1) Program elements link demonstratively to Fish and Wildlife Plans.

2) Technical and financial reporting for the Program as a whole is undertaken but could be done more effectively. This has, however, improved in the recent past.

3) While the proper allocation and efficient use of Program funds appears to be occurring there is much left to be desired concerning the systems used for cost control. Both BCH and BCE systems are used and due to their essential incompatibility result in inconsistent reporting, time consuming troubleshooting and duplication of effort.

4) There is no single set of administrative instructions for use by the Program covering such items as cost control, contract setting etc. At present some follow BCE and others BCH requirements.

5) A rough estimate of time spent on cost control was 50 (Program staff only) days excluding internal BCH and BCE financial activities such as bill paying etc.

6) Many parameters are measured in the carrying out of projects. Some relate well to objectives but there is no overall reporting of the association between Program objectives and strategies and these measurables.

1.4 Implementation

The composition location and affiliation of Program biologist have undergone many changes since this work has initiated. Originally projects were intended to be undertaken through staff hired by BCE but funded by the Program with participation of BCH staff as required. However, when Ministry staff left or accepted other posts, these positions were not able to be refilled. BC Hydro therefore supplied the necessary resources. In addition, as these changes came about the location where the staff were headquartered was consolidated in Prince George to provide the necessary back up for field work and enhance the profile of the Program.

At present four biologists, two fish and two wildlife, are employed by the Program. Three are BCH employees and one is from the BCE. All are fully dependent on the program with the BCH employees designated as temporary. BC Hydro employees report to the Land Resources and Fish and Water Resources Managers in Vancouver. The BCE employee reports to the Regional Fisheries Biologist. They are located in dedicated offices within the BC Government Building in Prince George. The senior fish (BCE) and wildlife (BCH) biologists are midlevel and in the mid (fish) and early (wildlife) years of their careers in terms of experience. The two remaining biologists are in the early stages of their careers.

Staff selection has generally been carried out by a joint process (only in the early days of the Program were wildlife biologists selected by BCE alone). Selection criteria focussed on their ability to deliver programs in the field but this too is changing, as they gain experience, and they now participate more fully, with the Technical Committees, in establishing Program activities. All Program staff are qualified biologists.

Technical direction and support for all biologists is received primarily from the Technical Committee members, usually the chair. Regional and Victoria BCE biologists and staff and BCH managers and their technical staff all provide technical support, advice and direction as required and appropriate.

Administratively there are differences between the two organisations in terms of employee grouping, benefits, staff training and development, and other personnel issues. For BCH staff many of these items have been addressed by either the BCH representative on the Technical Committee and/or their Department Managers. The BCE Regional fisheries biologist in Prince George also undertakes this function. Performance reviews are being undertaken by BC Hydro managers but the general opinion is that personnel management matters are not being attended to as well as they might due primarily to the substantive geographic separation.

It is difficult to estimate the amount of time being spent on personnel management. A rough estimate suggests that in excess of 200hrs/year is involved for the wildlife program alone. (This includes time of staff in Vancouver and Prince George).

Findings

1) Technical direction is provided primarily by members of the Technical Committees as well as all by line managers and staff.

2) There are substantial differences between the two agencies in their administrative procedures including personnel management, staff development and safety matters.

3) All Program Staff work out of the same offices in Prince George. These offices are located in the B.C. Government building.

4) Program staff performance reviews are carried out though it is difficult for Vancouver based managers to do this effectively given the geographic separation and attendant lack of on-going contact.

5) Concern exists that the geographic separation of Prince George and Fort St. John is reducing the profile of the Program in the latter subregion of BCE. There is much diverse opinion on this; clearly it must be examined and action as necessary taken.

2.0 Program

2.1 Customer (Beneficiary)

The Peace Williston Compensation Program, as originally announced, was to "enhance fish and wildlife". In addition, the Program was to focus heavily on public involvement to ensure that those affected by the hydro developments were satisfied with and participated in the work. As such and based on the public's response, it would appear that there is general agreement that the fish and wildlife resources represent the "beneficiaries" of the Program.

The two hydro projects resulted in a large area of lowland being flooded and thereby in a significant portion of fish and wildlife habitat being lost and migration routes being severed. It is logical therefore that the Program has concentrated its efforts on improving habitat and encouraging better use of that habitat which remains. Understandably, however, capability, suitability and other land uses, most importantly forestry, limit or otherwise influence what can be done to enhance habitat. Notwithstanding this focus, the program is also providing useful information to assist in multiple, integrated resource management decision making as well as baseline information to enhance resource management (regulation, enforcement) decisions.

A broad range of projects have been completed, such as large scale range burning to regenerate habitat, transplanting of fish and wildlife to unoccupied lakes and streams, and wildlife range respectively. Innovative logging practices have been tested in collaboration with forest companies and stocking of Williston Reservoir was commenced in an effort to provide a kokanee based fishery. Collaboration with interest groups eg. Rod and Gun

clubs has been successful in several instances notably in assisting with stream rehabilitation and habitat improvements.

Many of the initiatives in the Fish and Wildlife Plans suffer from a dearth of practical scientific knowledge as to how to achieve the desired result. This is particularly true for furbearers and certain fish species eg. arctic grayling, and the Program has been cautious in not 'running before it can walk" in these instances. However, innovation and research are noted as useful and appropriate endeavours.

The focus of the Program on the greater use and improvement of habitat inevitably begs the question as to how successful has this been in terms of both habitat and number of animals, It is clear that answers to this question cannot easily be provided. The relation between improved habitat and the number of deer or elk or rainbow trout has not been quantitatively determined. There are many variables that may work for or against "more animals" including the vagaries of weather, displacement by other land uses, harvesting etc. and in any case it would be hugely expensive and quantitatively imprecise to try to quantify net improvements. Further, the effects of transplants and habitat improvements will take several generations to be fully understood. Nevertheless, it is intuitively recognised that improvements to habitat will ultimately benefit fish and wildlife populations. Monitoring the results of enhancements are considered an essential component of Program activities that will provide guidance to future efforts and subsampling is being and continues to be undertaken. The search for quantitative measures of success, while most desirable, will need to be realistically managed. For example, relating present conditions to those before reservoir development suffer from the lack of baseline data.

Annual reports of the Technical Committees indicate that individual projects are being successfully completed and that Program monies are being wisely used. A balance between planning, enhancement and monitoring is being maintained and while equal weight for these three components is encouraged there is no inherent reason why annual variations should not be acceptable.

Findings

1) Fish and Wildlife are the essential "beneficiaries" of the Program. This appears to be accepted by most stakeholders. However clear objectives have not been developed to determine how successful the Program has been.

2) A wide range of projects have been successfully undertaken by the Program. These projects have focussed on improving habitats and on making better use of existing habitat.

3) The very large size of the watershed makes it difficult to quantify the effects of the Program on its resources. Qualitatively it is viewed as quite small. Any attempt to relate habitat improvements to number of additional animals or fish would be extremely expensive and even then, probably imprecise.

4) There has been considerable success in expanding the base of contributors to the Program. The forest industry, Habitat Conservation Fund, Interest Groups (eg. Rod and Gun Clubs, Schools) and the two partners, BCE, BCH, have all added money and/or labour to various projects.

5) The Program does not show any signs of being limited by the number of projects it could undertake. This is not surprising given the size of the watershed. However there are considerable technical uncertainties which impair the effectiveness of potential projects and this, at least in part, limits the type and number of projects.

6) There has been little or no attempt to directly relate the impacts of the hydro reservoirs to the enhancement projects being undertaken, Any such attempt would seem unrealistic given the lack of baseline information. The scope of these projects covers a broad and publicly acceptable range of species for which many lack proven enhancement techniques. The Program is proceeding cautiously in these areas. Several generations will be necessary to assess success or failure.

2.2 Operations

Project delivery is undertaken by a number of different groups including Program staff, BCE, BCH, contractors and the Public. There is no consistent approach to the way in which this work is allocated and carried out. Certainly Program biologists are often relied upon to assess options even though work activities are undertaken or, initiated by others. The role of the Technical Committee is to distribute the workload among the parties. Outside contracts are let under both BCE and BCH systems, a situation which seems to have evolved rather than having a clear rationale. In the case of fisheries the Fort St. John office of BCE undertakes its programs largely in administrative isolation from Prince George where the defacto Program "administration" is located.

Program staff (2 fish and 2 wildlife biologists) are located in Prince George. As noted earlier this was in part to provide a focus for the Program but more importantly to assist in the efficient (reduce cost of space, support equipment) and effective delivery of programs. Collaboration and safety requirements strongly suggest that having the people in the same location makes sense. A major test of this is whether all areas of the region, are being appropriately serviced. This appears to be the case from the projects perspective. However, from the profile point of view there are some concerns that more needs to be done in the Peace area to raise awareness of the Program. Knowledge of this Program in other areas of the province (ie. outside of the north) is suspected of being very low.

The productivity of the biologists and the work they contract is difficult to judge in an absolute sense. Certainly the proposed programs are being completed successfully. What is not fully known is how much time is being spent on administrative overlap or duplication between Program, BCE and BCH staff. It appears very clear that this aspect of the Program can be improved.

Findings

1) Supply contracts are issued via BCE and BCH systems. Some duplication of effort invariably ensues.

2) Projects are clearly being undertaken effectively but the administrative arrangements whereby this is being managed are inconsistent and potentially inefficient.

3) The consolidation of staff in Prince George was undertaken to promote efficiency and the effective delivery of projects. However some concern remains that all areas in the region must receive the same level of attention particularly in terms of public awareness of the Program, but also in terms of project delivery.

4) The use of two systems for cost control results, on occasion, in many hours of additional administrative effort being expended by Program biologists and within BCE and BCH. This is further evidenced by the lack of consistent reporting of the monetary status of the Fund.

2.3 Stakeholders

At the initiation of the Program it was stressed that input and involvement by the public would be actively sought. It was recognised that broad direction would need to come from the public and interest groups if the Program was to be effective in meeting the aspirations of all stakeholders.

The public consultation component of the Program has been successful in several areas.

In terms of awareness the workshops, openhouses and newsletters have provided a wide range of publics with information on the Program and facilitated their input and involvement. Of particular note were the initial workshops on the Fish and Wildlife Plans which resulted in the Program addressing biodiversity instead of a limited number of high profile species. It is appreciated that several of the strategies will have secondary effects, eg. addition of one species may displace other species. Some of these processes are understood others are not. Therefore work has proceeded cautiously in an effort to avoid serious adverse side effects.

Involvement by interest groups in the identification of potential projects and in implementation has been most helpful. There is concern that the Program not over-tax these groups or overly raise their level of expectation for their continued assistance in projects. Projects need to be of the correct "size" for effective public involvement.

Other stakeholders, such as the forest industry and aboriginals, are becoming increasingly involved in partnerships with the Program. Mapping and experimental adjustments to logging practice have been jointly undertaken and information obtained under program auspices have been made available for use in Integrated Resource Management.

There have been no surveys undertaken so the above "achievements" are subjective. However, it is true that among community leaders and Rod and Gun Clubs awareness of the Program is generally high. However, it is also viewed as "fragile". The concept of the Program is supported but the scale of fish and wildlife projects, in relation to the extent of the original impact, is viewed as being seriously out of balance. There remains an inherent mistrust by the public regarding the level of commitment and that it is being managed efficiently. The public have a strong view that the Program be positioned as being largely independent of operations of both BCE and BCH. The reporting of management and the monetary aspects is viewed as being inadequate. It must be understood that the program biologists are the primary vehicles/sources of information for the Program. They are often not given the necessary information in a timely manner and this leads to a lack of confidence in the program management which inevitably get reflected through to stakeholders. In addition, the consultation program needs to find ways of going beyond the interest groups to the public at large; there is no plan yet in place to get this done. There is also a need to improve the feedback to the public to ensure that what was thought to be heard was what was said and to describe how their input has changed and improved the Program.

Additional exposure could be obtained through travelling displays for malls and addition of discrete displays at the G.M. Shrum and Peace Canyon visitor centres (this has since been developed).

Regarding Aboriginal groups, specific effort has been made to increase their participation in the Program. Much of this has been in the area of improving their experience through participation in projects, monitoring, transplants and fire mop up work. It is quite clear that aboriginal groups wish to become more involved in the Program though how this will come about and what form it will take is still evolving.

Findings

1) Stakeholders include the general public as well as interest groups, the forest industry and aboriginal groups. A number of Government planning processes, notably the Commission on Resources and Environment, Local Resource Management Plans and the new Forest Practices Code, will inevitably affect the Program.

2) Public consultation has been successful in raising awareness of the Program and in gaining input to it. Participation from all sectors has been arranged and the public are generally most supportive. The Public has not been surveyed on its level of satisfaction with the Program. As a result there is not a firm level of understanding from the general public as to the extent of their awareness. Further it is not possible to determine if a perceived lack of Program awareness in the Peace Area is real or a function of this being a relatively new program.

3) The Public's support is "fragile" and is vulnerable to a lack of confidence regarding the level of commitment given the disparity between the level of impact and size of the program.

4) Reporting of Program activities and particularly its financial status need to be greatly improved to ensure that the public's understanding remains current.

5) Forest Industries, Rod and Gun Clubs and interest groups have worked well with the Program and opportunities for enhanced collaboration exists.

6) Specific attention is being focussed on Aboriginal involvement primarily through specific, single source contracts and to improve technical growth and training by arranging for participation on project teams.

2.4 Shareholder

The expectations of BC Hydro and BC Environment are clearly described in the original press release and ensuing agreements such as the Memorandum of Understanding. These expectations focus on both enhancement of fish and wildlife and on the process whereby the public, in the fullest sense, are involved in the direction of the Program.

Those officers of BCE and BCH who are familiar with the Program are supportive of its progress and encouraged by the productive and harmonious working relationship between the two agencies and the public. Communication of the results achieved by the Program however, is not as complete as it should be and does not occur effectively. This is in large measure due to the lack of appropriate Program inclusive reporting.

Findings

1) There is general satisfaction with the Program achievement to date. However the extent of reporting to all levels in each organization has not been great.

2) Quantitative or semi-quantitative reporting of the value of the programs undertaken in terms of return on investment has not been attempted.

3) There is strong support from those officers of BCE and BCH who are knowledgeable of the Program. A greater effort is needed by the Program to advise these and other senior officers of progress.

APPENDIX A

Peace/Williston Compensation Program
5 year Review Framework

A review of the Peace/Williston Compensation Program (PWCP) will be undertaken by a review team comprised of Harvey Andrusak (MOELP), David Craig (BCH) and Zig Hathorn (BCH). The following provides the framework for this review.

A. Review Protocol

1. Need & Basis for providing Compensation

These questions to be directed to BCH/MOELP management (D. Craig to interview H. Andrusak, F.G. Hathorn and T.M. Thompson).

- What does water Licence say?
- What was original agreement between BCH and MOELP? What uncertainties existed?
- Given BC Hydro's Policy/Direction & BCE Mandate what were the reasons for selecting the joint approach?
    - To make it work?
    - Public Expectation/Current Expectations?
- What does our agreement MOU say and is this still appropriate? (note 5 yr review included in MOU)
- What did the proposed Society agreement of 1992 provide and what is now the assessment of that agreement and why?

2. Review of Type and Extent of Programs

These questions, Sections 2, 3 and 4, will be directed by the Review Team to members of the PWCP technical committees (Ted Down, Brian Churchill, Owen Flemming, Hugh Smith, Ken Child, Alan McLeod and Bob Bradley), Program biologists (Brian Blackman, Arne Langston, Man Wood, Fraser Corbould) and BCH/MOELP managers (Don Walker, David Zirul, Hugh Smith, Glen Singleton) and public consultation (David Read).

- How are programs identified?
- What processes are used to select programs?
- How do you balance effort for different species, locations, seasons?
- What limits to extent/number/subject matter/informational base of programs exits?
- What balance is placed on proven enhancements techniques vs innovation?
- What relation exists between impacts and programs?
- Do you have any sense of the program rotational cycle for wildlife habitat improvements? What would be the levelised effort based on current work?
- What have we achieved to date - for each program element of the strategic plan?
    - Has the program been effective?
    - How would you know?
- Are there changes needed in direction or focus?
- What role does consultation with the public play in determining program direction and what process(es) are used to acquire their opinion?
- What role does the public play in program implementation and how is this arranged?
- What mechanism(s) is in place to receive feedback in public involvement?

3. <u>Management Structure</u>

- What are the terms of reference of Steering and Technical Committees? Are they effective? Do they have any areas which need improving?
- How are the finances of the Program Managed? What standards of cost control are maintained? Who established them?
- Who tracks expenditures? What role do the following play in cost control?

- Regional Biologists
- Regional staff of MOE - Mgr F&W/L, Regional bio F & W/L
- B.C. Hydro -Department Managers

  -Budget and Administration Staff

  -Financial Administrative Officers
- Technical Committee members in BCH
- Steering Committee member BCEIBCH

- What difficulties have been experienced in effectively monitoring costs?
- What records of the financial basis of program are maintained by
  - •MOELP?
  - •BC Hydro?
  - •Program biologists?
- Who provides direction to Program Staff on Day to Day activities?
- What Records Management system(s) is in place and maintained to cover program administration? By whom?
- What support that is not charged to the Program does Ministry and BC Hydro Administrative facilities and staff provide?

4. <u>New Issues</u>

- Are there new issues that need to be addressed?
- Are there issues that require the subject area to be expanded.
- What programs would be focussed on in these new endeavours
- What expectations do the public have

B. Items to be borne in mind by the Review Team

Assess value for money obtained to date

- Expenditures and achievements
- Type of program and repeatability
- Would additional money provide benefits at the same value for money rate?
- Are impacts being reasonably addressed within identified bounds?
- Is the program in information: action plan balance or is it overextending itself?
- Is the public expectation being met at present. What would it take?

Assess Management of the program

- •Is tight fiscal control being maintained. If not why not?
- 'Is the organisational structure satisfactory to ensure clear direction to the group working in the area
- 'Has clear direction been provided to the program and the program biologists. What actions are required.

C. Report

A report summarizing the findings of the review will be prepared. Each of the issues (A1-4) will be addressed and it is expected the recommendations will be made covering the following:

- Management structure
  - Organization needed including technical and administrative aspects
  - Functions of positions in the organization
  - Reporting relationships between various entities

- 'Financial Management
  - Procedures that need to be established
  - Organisational requirements mechanisms for BCH to release monies and track the account
- The level of annual funding
  - What should it be
  - What should the formula for calculating it be
- Technical Programs
  - Directional changes if any
  - Make up of Program Team
  - Changes in study area or scope, if any
  - Actions to improve effectiveness of program

APPENDIX B

List of Interviewees

B. Blackman	BC Environment
D. Cadden	BC Environment
K. Child	BC Hydro
B. Churchill	BC Environment
F. Corbould	BC Hydro
T. Down	BC Environment
0. Fleming	BC Hydro
D. Heard	BC Environment
A. Langston	BC Hydro
A. McLeod	BC Hydro
D. Read	BC Hydro
G.A. Singleton	BC Hydro
H.A. Smith	BC Hydro
T.M. Thompson	BC Hydro
J. Walker	BC Environment
M. Wood	BC Hydro
D. Zirul	BC Environment

APPENDIX C

(i) Press Release July 15, 1988

Dr. D. Narver, Director
Recreational Fisheries Branch
Ministry of Environment
and Parks

RELEASED BY:

FOR IMMEDIATE RELEASE

The Honourable Bruce Strachan
Minister of Environment

The Honourable Jack Weisgerber
Minister of State for Nechako and Northeast

Mr. Larry Bell
Chairman, B.C. Hydro

WILLISTON RESERVOIR COMPENSATION AGREEMENT

A major program to enhance local fisheries and wildlife in the Williston Reservoir area will begin this summer.

The five-year, $10 million program was announced jointly by Jack Weisgerber, Minister of State for Nechako and Northeast, Environment Minister Bruce Strachan, and B.C. Hydro Chairman Larry Bell.

The work will be carried out jointly by the Ministry and Hydro using funds provided by the Crown corporation as compensation for impacts to fisheries and wildlife resulting from the creation of the Williston Reservoir in 1968.

"This compensation agreement will be welcomed throughout the region, both as a conservation measure and as an exciting regional development initiative,' Weisgerber said. "Recreational fisheries and wildlife are important to both the lifestyles and livelihoods of northern residents."

.../2

"This program is consistent with provincial policy of encouraging sustainable development in a sustainable environment," Strachan said.

"For both residents and visitors to the region, the enhancement activities should result in dramatically improved sport fishing, hunting and wildlife viewing."

Bell added that Hydra wants to ensure that the public, and especially area residents, have every opportunity to enjoy the assets of the region. "We certainly want to look into the question of recreational and commercial access to the reservoir and how this can be improved," he said.

He also sees a need for a local committee to work with Hydra in the ongoing management of the reservoir. He said that this group would be asked to present an annual report of its activities and would include representatives from local communities, fish and wildlife interests, industry and tourism.

In concluding the agreement-in-principle with the government, Bell commented that "this approach to compensation satisfies our desire to encourage the best possible multiple resource use in and around B.C. Hydro's reservoirs."

About $800,000 has been budgeted for the first year's activities, which will include:

* Identifying areas where immediate enhancement can proceed for moose, elk, deer and other species.

* Mapping and inventory of wildlife habitat and populations.

* Testing and inventory of fish habitat and populations to determine the potential for fish production in the reservoir and its tributaries, and to identify suitable enhancement sites.

Identification of wildlife and fisheries impacts, together with remedial measures, was a condition of the water licence issued to B.C. Hydro for the Williston Reservoir project. Similar compensation agreements have been made with the corporation for the Pend d'Oreille, Revelstoke and Lower Arrow Reservoirs.

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CONTACT:

Ronald A. Kawalilak
Director, Information Services Branch
Ministry of Environment
Victoria (604)387-9419

July 15, 1988

(ii) Letter Li. Bell (BCH) to R.L. Dalon (BCE) August 13, 1990 regarding funding.

13 August 1990

Mr. R.L. Dalon
Deputy Minister
Ministry of Environment
810 Blanshard Street
Victoria B.C.
V8V 1X5

Dear Mr. Dalon:

Under the original water licences to Williston and Site 1 there are clauses respecting compensation to fisheries and wildlife losses. It has been agreed between the Ministry of Environment and B.C. Hydro that the thsses would amount to $11,000,000.00 and that the imputed return from this amount would be allocated each year to fish and wildlife programs. This arrangement will continue until final agreement Is reached on administration of the compensation agreement.

Until such agreement is reached, decisions on allocation of annual operating funds will be made by a steering committee comprised of two members from each of B.C. Hydro and Ministry of Environment. This committee will review proposals from Ministry of Environment and B.C. Hydro technical staff, approve programs and ensure the public is informed and involved in the process.

Once budgets are approved the money will be provided by B.C. Hydro.

Yours truly,

L.I. Bell
Chairman and
Chief Executive Officer

c: The Honourable Jack Davis
Minister of Energy, Mines
and Petroleum Resources

The Honourable John Reynolds
Minister of Environment

bc: C.W.J. Boatman, F.G. Hathorn, T.M. Trompson

(iii) Memorandum of Understanding between BC Hydro and Ministry of Environment, Lands and Parks

MEMORANDUM OF UNDERSTANDING

between

BPJTISH COLUMBIA HYDRO AND POWER AUTHORITY

and

MINISTRY OF ENVIRONMENT, LANDS AND PARKS

British Columbia Hydro and Power Authority (BCRPA) holds water licences which, in part, obligate it to undertake programs to address losses to fish, wildlife, and recreation. These programs are undertaken as cooperative initiatives with Ministry of Environment, Lands and Parks (MELP). The following principals have been accepted by both agencies and are intended to serve as guidelines for the drafting and implementation of programs to the satisfaction of the Water Comptroller.

1. Programs are cooperative joint ventures between the two agencies aimed at sustaining and enhancing fish, wildlife and recreation affected by B.C. Hydro developments.

2. For the purposes of this agreement both agencies acknowledge that the mandate of BCHPA is the supply of electricity and the mandate of MELP is management of fish, wildlife and recreation. All programs must be consistent with the long-term policies and plans of MELP and BCHPA.

3. The aim of these programs is to provide for the preservation of recreational opportunities and to maintain and enhance natural production of fish and wildlife populations, with artificial production as a secondary priority

4. Consistent with the concept of sustainable development, the intent is to maintain the biodiversity and recreational opportunities of the area through "in kind" programs. Where this is not possible, alternate programs of replacement, restoration, or substitution will be pursued.

5. As a primary focus, monies will be spent in the area of project influence, in order to maximize the return to fish, wildlife and recreation directly affected by the project.

   If the opportunities for efficient use of monies do not exist in the area of project influence, monies may be expended anywhere else in the same river basin.

6. Programs will attempt to improve fish and wildlife populations through enhancement of existing habitat. It is acknowledged that research, planning, monitoring and evaluation will be required to achieve these results, but in all cases must be clearly related to the achievement of overall program objectives.

7. Recognizing that special impacts on aboriginal interests have occurred in the area of project influence, aboriginal involvement in programs will be encouraged.

8. Recognizing the importance of impacts on local interests, there should be provision for local public input to these programs. Further, local public involvement in the delivery of programs as contractors, sub-contractors, or volunteers is encouraged.

9. A communication plan for each program will be developed and any press release will be approved by both agencies.

10. Monies for these programs will be provided by BCHPA. It is intended that such funding will be of a continuing nature requiring capital funds. It is intended that year-to-year operations would come from earnings generated by the funds. It is further intended that the capital funds maintain their long-term real value. Joint review of compensation plans will occur annually. Comprehensive review of the programs's goals, achievements, future plans and financing will occur at least every five (5) years.

11. The level for dispute resolution are as follows:

    a. Program Management
    b. Assistant Deputy Minister, Fisheries Wildlife and Integrated Management, MELP; and Vice-President, Environmental and Corporate Affairs, BCHPA;
    c. Deputy Minister, MELP; and Chairman, BCHPA;
    d. Minister of Environment, Lands and Parks and Minister responsible for BCHPA.

G. R. Armstrong
Deputy Minister
Ministry of Environment, Lands and Parks

J. P. Sheehan
Senior Vice-President and
Chief Financial Officer
B.C. Hydro and Power Authority

(iv) Williston Lake Compensation Program Management Plan - Fisheries, August 1990 - Executive Summary.

PWFWCP Report No. 58: p. i-v.

EXECUTIVE SUMMARY

Williston Lake, the largest body of freshwater in British Columbia, was created in 1968 when the W.A.C. Bennett Dam was completed. Substantial portions of three river systems, the Peace, Parsnip, and Finlay, were flooded, resulting in substantial alterations to fish habitat. In a manner typical for newly-created reservoirs, fish species adapted to the riverine environment declined in abundance, and to some degree have been replaced by species more adapted to the lake-like reservoir environment.

Under the terms of their water licence, B.C. Hydro is obliged to provide compensation for fisheries losses in the Williston Watershed. The goal of this management plan is to provide a guideline for that compensation, through the protection and enhancement of Williston Watershed fish populations and their habitat. The Ministry of Environment is the lead agency overseeing all fisheries management activities. B.C. Hydro will fund the implementation of the plan through a $5 million compensation fund and will also participate at the technical and steering committee levels. The management plan will be available to the general public for comment and input, and the public sector will be kept informed of enhancement activities. Further, organized interest groups will be encouraged to suggest and participate in enhancement projects.

The management plan provides an overview of the physical characteristics of the Williston Watershed, including physiography, climate, vegetation, and soils. A summary of the available hydrological, limnological, and water quality data is also presented.

Recent netting studies (1988) have demonstrated that riverine species such as mountain whitefish, Arctic grayling, and river-resident rainbow trout have all declined since previous investigations (1974-75). Species well adapted to a lacustrine environment, such as burbot and especially kokanee, have shown increases in

relative abundance, as have coarse fish species, such as peamouth chub. Many of the rivers and streams draining into Williston Lake are under-populated with sport species. In particular, Arctic grayling and mountain whitefish, which probably depended on the larger mainstem rivers for adult rearing, have disappeared. Without a suitable forage base in the rivers, the bull trout have apparently moved into the reservoir and now feed primarily on lake whitefish. A major portion of the proposed compensation activities will be in establishing fish populations suited to the altered environment centred on the Williston Reservoir.

The creation of the reservoir provided access to many systems that were previously remote. Angling activity tends to concentrate at river mouths and success rates can be quite good (0.47 fish per hour in the Dunlevy Creek area). As debris problems on the reservoir have improved; so has safe access. While in the Parsnip and Finlay Reaches anglers still target almost exclusively on bull trout, in the Peace Reach, trolling has become more popular and angler effort is split between rainbow trout, bull trout, and kokanee. The majority of angling effort in the watershed, however, concentrates on the numerous smaller lakes and streams and these have become increasingly accessible, largely due to the logging activity. The easy access to a large portion of the watershed has resulted in overfishing in some of the more popular areas.

Management and enhancement activities in this plan are presented in categories based both on macro-habitat type (small lakes, rivers, and streams, Williston Reservoir) and by fish species. These will be highlighted below. The primary effort will always be to maintain or enhance indigenous fish populations. When unoccupied habitat is found, introductions of suitable fish stocks will be undertaken if these will not unduly impinge upon native fish stocks. All enhancement projects will include an evaluation component. Many of the activities will be treated as pilot projects, the results of which will be applied to other systems in the reservoir as the data base expands.

On Williston Lake itself much of the initial effort will be directed towards kokanee. A major constraint on fish production in the reservoir is the large drawdown and the resulting lack of stable littoral environment. Kokanee, being pelagic planktivores, do not depend on the littoral zone and are proven performers in other B.C. reservoirs. Basic biological information needs to be obtained for the current population so that the necessary baseline data is in place to manage this species. A major objective will be to provide an expanded kokanee fishery by introducing stock into tributaries draining into embayments that are accessible to anglers. This should provide a terminal fishery for kokanee as they return to these tributaries to spawn. Additionally, kokanee can be utilized as forage by larger piscivorous species such as bull trout, lake trout, and Gerrard rainbow trout. The possibility of stocking the latter two species will be evaluated with the intent of creating new trophy fisheries in Williston Lake.

The management goal of the small lakes program will be to increase and diversify the angling opportunities in the Williston Watershed. A regular schedule of lake inventories (Recreational Fisheries Branch protocol) will be undertaken, with the objective of identifying enhancement opportunities. Suitable lakes without an existing sport fish population will be considered for stocking. Habitat improvements such as barrier removal, spawning bed improvements, and aeration will be undertaken when practical.

Many of the watershed's rivers and streams were inventoried at the reconnaissance level during 1988 and 1989. The inventory program will continue, providing the necessary background management data. Where habitat and stock protection are inadequate to provide a suitable fishery, stocking programs will be considered. Initial pilot scale river stocking will address two strategies. The first will be to re-establish a river-resident rainbow trout fishery in the Carbon River. The second strategy will be to use several streams as nursery systems where the fish (rainbow trout or kokanee) will recruit to the main lake or embayment fisheries. Evaluations will determine if modifications need to be made to the stocking protocol before expanding to other river systems.

It is apparent, therefore, that for rainbow trout, several strategies will be pursued. Each of these strategies will require unique genetic strains of trout to best utilize the available habitat. Thus, Pennask rainbow trout (or a similar strain) will be used for small lake stocking, Quesnel Blackwater stock will be used in rivers and for embayment program work, while Gerrard rainbow trout will be the choice for the main reservoir and some large lakes where an open-water piscivorous strain is required.

Bull trout are still relatively abundant in the reservoir and, as such, the major effort will be to maintain the indigenous stock. It is apparent that our understanding of the basic life history of bull trout in northern waters is inadequate, and efforts will be made to gather that data.

Protective regulations, such as spawning closures, will be modified as new information becomes available. Long-term monitoring of population dynamics will enable proactive management steps to be taken. Efforts will be made to educate the public on the sensitivity of char populations to angling pressure.

Arctic grayling have all but disappeared from the reservoir, but where populations still exist in some of the major tributaries, every effort will be made to maintain and enhance these populations.

Kokanee have become established in Williston Lake and currently provide a modest fishery. The only confirmed spawning area to date is in the relatively inaccessible Finlay River. It is essential to determine the current distribution of kokanee in the reservoir, and to establish a baseline data set of life-history information for this northerly population. Kokanee will undoubtedly play a central role in Williston Lake fisheries, and will have to be managed intensively. This will require a sound time-series database from which to follow the population dynamics. To facilitate the expansion of the kokanee population into tributaries more accessible to anglers, a stocking program will be initiated utilizing stock from the existing provincial hatchery system. Streams have been, and will be evaluated for their potential as kokanee spawning streams. Creel census and monitoring spawning returns will be used to determine the success of the program.

Lake trout are present in the reservoir in very low numbers and do not currently support a fishery. Due to the large drawdown, lake trout would not be expected to spawn successfully in Williston Lake. However, because Williston Lake has both the forage base and physical characteristics suitable for lake trout rearing, this species should thrive in the reservoir. Although they probably will not reproduce, since lake trout are a long-lived species, they would be available to anglers for a long period. A very modest stocking program could support a trophy fishery, given that success rates should be relatively low. This would provide greater angling diversity in that anglers could anticipate the possibility of catching any one of three large salmonids (lake trout, bull trout, or Gerrard rainbow trout). Initially, a suitable donor stock will have to be identified before any stocking could proceed. After stocking, a low-effort but long-term monitoring program would be undertaken, mostly on specimens creeled or those collected during other routine management activities.

Although this management plan should provide a framework for fisheries management in the Williston Reservoir for at least five years, it is a dynamic plan and will be reviewed regularly as new data is collected and assimilated. Evaluation is a key element and projects will evolve based on early findings. Most importantly, the information and experience gained through implementation of this plan must be clearly documented so as to form the foundation for future plans.

(v) Williston Wildlife Compensation Program Management Plan - December 1990 - Executive Summary

PWFWCP Report No. 5: p. i-v.

EXECUTIVESUMMARY

The construction of the W.A.C. Bennett hydro dam on the Peace River 30 km west of Hudson Hope in 1968 created the largest fresh water body in British Columbia. The Reservoir flooded 1,500 square kilometers of prime wildlife winter range and disrupted migration corridors of caribou and Stone sheep. The winter range carrying capacity for moose was reduced by 50% resulting in an estimated annual loss in hunting value of $1.53 million in 1988 dollars. Habitat for other game species including Stone sheep, elk, deer, grizzly bear, black bear, caribou and waterfowl was also reduced. Habitat for furbearing animals, waterfowl and other small birds and mammals was also impacted.

In 1988, B.C. Hydro agreed to provide $5 million for wildlife compensation in the Williston Reservoir Basin area and agreed to jointly participate with the Ministry of Environment(MOE)in Technical and Steering Committees required to administer the project. The compensation program will be delivered by the Ministry of Environment. As part of its commitment to the Williston compensation program,the Ministry of Environment hired two wildlife biologists during the summer of 1989 to begin wildlife compensation work. The Williston wildlife biologists have begun developing a wildlife compensation program by gathering information on wildlife distribution, wildlife abundance, habitat use, habitat enhancement potential and public expectations. The program is being developed using the following principles.

Management Principles:

1) The program will meet the public expectation for visible enhancement and protection activities based on sound biological information through a balance of enhancement projects and information gathering.

2) Compensation projects will be technically sound. Habitats and wildlife populations will be monitored to determine the effectiveness of the program.

3) The majority of compensation activities will be conducted in tributary watersheds to the reservoir. Some activities may be conducted in adjoining watersheds where habitat capability, wildlife populations, public demand and recreation opportunities justify action.

4) Where possible, compensation goals will be accomplished and sustained through integrated planning and joint activities with other resource management programs.

5) Project priorities will be based on the following criteria:

- biological soundness
- value, uniqueness, or vulnerability of the habitat or population
- public expectations
- impact and duration of benefits
- possibility for cooperative projects with other resource users
- cost-benefit and feasibility
- public participation

The Wildlife Compensation Program Management Plan was developed for the Williston Reservoir Basin after 1.5 years of biological assessment. The purpose of the Williston Lake Compensation Program is to protect and enhance Williston Basin wildlife populations and their habitat through implementation of long term management and enhancement plans. Habitat lost was critical for many wildlife species and cannot be replaced by enhancement activity. The compensation program will intensify management to enhance and preserve remaining wildlife resources within the limits of habitat capability.

PART I of the Williston Wildlife Management Plan outlines broad goals and strategies which detail broad goals will be met. Goals of the wildlife compensation program are to :

1. Develop an information base for wildlife in the Williston watershed.
2. Maintain and enhance wildlife populations
3. Protect key wildlife habitat.
4. Maintain habitat quality and diversity
5. Create recreational opportunities fo. the public
6. Ensure meaningful public involvement
7. Provide local employment opportunities where possible

PART II of the Wildlife Management Plan outlines:

1. The physical and vegetative characteristics of Williston Basin as well as animal use of habitat zones.
The Williston Basin has long, cold winters, short growing seasons and deep snow over most of the watershed. Some areas receive less snow because of their elevation or because the 'snow shadow' effect of surrounding mountains. Other areas have reduced snow depth as a result of wind action, melting or the shelter of mature forests. The resulting variation in snow depth is critical to the survival of many important wildlife species. The topography varies from rugged mountains to low elevation flats in the Rocky Mountain Trench and along the valleys of approximately 20 major rivers. There are south and west facing sidehills which lose their snow and green up first in the spring and north facing side slopes which hold snow a long time in the spring providing moister, cooler summer habitats. Vegetation varies from mature forests of spruce and pine to shrubby areas, grassy areas and deciduous forests of aspen or cottonwood. Marshes, small and large streams, acid bogs, lakes and the reservoir foreshore all provide wetland habitats that are used by wildlife.

2. Important habitat management concepts including habitat capability, habitat suitability, and limiting factors.
Habitat must provide the right kind and quantity of food, water, topography and cover for species to survive and reproduce. Habitat capability describes the potential of the land base to support wildlife under optimal vegetation and land use conditions while Habitat suitability describes the ability of the land base to support wildlife under current, possibly less than optimal vegetation conditions. The gap between habitat capability and suitability identifies opportunities for enhancement.

If all the requirements for an animal population are present in adequate quantity and quality except one, then that one is said to be the limiting factor for population growth. Identification of the factors limiting a wildlife population in any area is essential before effective enhancement or protection of any species can be done.

3. Land-use impacts and management.
Resource industries including forestry, hydro-electric power generation, mining and agriculture all have impacts on wildlife management and compensation activities in the Williston watershed. Often, the best gains for wildlife compensation can be made by working with resource industries to minimize the negative impacts and maximize positive impacts of industrial activity. This is called integrated management.

PART III of the Wildlife Management Plan presents proposed management and enhancement activities for individual wildlife species or species groups. These will be highlighted below. Brief statements of the distribution, population status, habitat requirements, and current economic value for each species are also provided in the report. The compensation program for each species will follow the same basic pattern. Biological information including habitat capability, habitat suitability and limiting factors will be determined through a variety of methods ranging from animal inventory and habitat surveys to interviews with local experts. This information, as well as public input, will be used to design and priorize potential compensation projects. Since the compensation program is financed by a perpetual fund, the programs can be designed with a long term approach which emphasizes sound planning. Well monitored pilot projects will often be used to evaluate enhancement techniques before they are used on a larger scale. Periodic program re-evaluations will use updated technical information and informed public input to improve methods and modify program direction as necessary.

Moose are the most abundant large mammal species in the Williston watershed. Important moose habitat will be identified through aerial inventory and mapping of snow depth and other habitat features. Compensation enhancement activities will focus on enhancing forage on important winter ranges through prescribed burning and mechanical treatments. Options for enhancing and protecting moose habitat value through integrated management with the forest industry will also be evaluated.

Woodland caribou are very sensitive to human intrusion and knowledge of their abundance, distribution and ecology in the Williston Basin is fragmentary. The primary requirement for the protection and enhancement of caribou populations is for better information on the abundance, distribution, seasonal habitat selection and population dynamics of important local herds. This information will be used to provide input to integrated forestry and access plans and to evaluate potential habitat enhancement treatments.

Stone sheep populations in the Williston Basin include about 10% of the world's population of these animals. The compensation program will establish new populations through animal tranlocations to suitable vacant habitat on the east slope of the Rocky Mountains southwest of Hudson Hope. Large populations in the Russel Range, east of the Finlay River will be inventoried and evaluated for potential habitat protection, enhancement and tranlocation projects .

Elk and deer are only able to survive in the lower snow depth areas of the Williston Basin. Both species require an optimal mix of forested and open habitat. Important areas for these species will be determined by winter inventories and habitat evaluations. Where required, forage will be enhanced using prescribed burning. The potential for establishing new elk populations through translocation

will be evaluated.

Many species of **waterfowl** stage or breed within the Williston Basin including more than 20 species of diving and dabbling ducks, Canada geese, and two swan species. Compensation projects will create or improve wetland habitat using techniques including pothole blasting or digging, dam construction, construction and placement of nest boxes and floating islands, and seeding of vegetation for waterfowl forage and cover. The feasibility of Canada goose transplants to boost populations in enhanced areas will be evaluated.

Grizzly and black bears are both present in the Williston Basin in significant numbers. Because of their low reproductive rate, grizzly bear are very susceptible to population declines from the increased legal and illegal kill resulting from increased road access. The compensation program will cooperate in projects to identify and map important grizzly bear habitats. These maps will guide resource development to protect grizzly bear habitat. Prescribed burning done primarily for ungulate species will often enhance forage for both grizzly and black bears.

The total **mountain goat** population in the Williston Basin is estimated to be about 2000 animals. Similar to grizzly bears, this species is susceptible to population declines from overharvest when new roads give close access to goat populations. Compensation projects will identify and map goat populations and goat habitat so that access and resource development plans can be modified to minimize negative impacts on goats. Better information will also result the development of hunting regulations which will better ensure safe harvest levels.

The **furbearing animals** in the Williston Basin can be divided into three groups based on their major habitat requirements. Aquatic furbearers including beaver, mink, muskrat and otter depend on wetland and lake habitats. Mature forests are critical habitat component for martens and squirrels. Lynx, snowshoe hare, fisher, wolverine, coyote, fox, skunk and weasel generally prefer a mixed vegetation pattern including openings, and young and mature forests. Fisher and wolverine are rare in much of their historic range throughout the world but exist in the Williston Basin. Detailed information on habitat requirements and enhancement techniques for major furbearers will be compiled and used to develop trials of innovative forestry practises to lessen the impacts of forest harvesting and silviculture on these animals. This will require the cooperation of both forest industry and local trappers. Wetland enhancement projects will be conducted to benefit both aquatic furbearers and waterfowl.

Two highly visible types of non-game birds in the watershed are amenable to active protection and enhancement activities include: 1. the fish-eating raptors, including bald eagles and ospreys 2. the cavity nesters including 7 species of woodpeckers, 5 species of owls, kestrel, red-breasted nuthatch, 3 species of chickadees, swallows and tree nesting ducks. Detailed information on habitat requirements and enhancement techniques for raptors and cavity nesters will be compiled. New forest harvesting systems designed to maintain snags for cavity nesting birds will be developed, tested and promoted. Present concentrations of raptor nesting sites will be surveyed and potential limiting factors evaluated. If these evaluations indicate that the supply of nesting sites is limiting populations, projects will be developed to protect existing sites and create new ones.

In addition to these species specific projects, compensation funds will be used to develop wildlife viewing areas in locations where wildlife or interesting aspects of wildlife ecology can be viewed by the public.

The Wildlife Compensation Management Plan gives clear direction for the program and is the first essential step in planning. Using this document as a basis, more detailed annual action plans will be prepared. These annual plans will benefit from the greater biological information and public input that will be gathered over the next few months and years.

(vi) Summary of Program expenditures to date.

PEACE COMPENSATION PROGRAM

SUMMARY OF ANNUAL BUDGETS

As at 22 November 93

	Fisheries		Wildlife		Total	
	Plan	Actual	Plan	Actual	Plan	Actual
1988/89	394	337	420	27	814	364
1989/90	304	276	383	451	687	727
1990/91	532	458	350	311	882	769
1991/92	420	342	350	274	770	616
1992/93	440	422	370	358	810	770
1993/94	430	340[2]	370	320[2]	810	660

[2] as of May 1994. Actuals may change due to late accruals.

(vii) 1991-92 Public Consultation Report 1 August 1992 - Excerpt - 1992 Public Consultation activities.

PWFWCP Report No. 17. p. 3-11.

1991/92 PUBLIC CONSULTATION ACTIVITIES

The public consultation activities of the Program over the past year included the production of the "Natureline" publication, public involvement workshops, and many local meetings with interest groups. The one-day workshops, held in two locations, included presentations by those working on the Program as well as local stakeholders. There were also question periods and response opportunities. Workshop participants were also asked to provide feedback via questionnaires on the workshop process, the fish program and the wildlife program.

1991/92 PUBLIC CONSULTATION ACTIVITIES - Continued

February, 1991 edition of "Natureline," a public information newsletter, distributed to stakeholders on the Program mailing list and interested parties in other locations.

February, 1992 edition of "Natureline" distributed to mailing list.

March 28, 1992 Public Workshop held in Hudson's Hope.

April 25, 1992 Public Workshop in MacKenzie.

SUMMARY OF 1992 PUBLIC CONSULTATION WORKSHOPS

WORKSHOP SURVEY FEEDBACK

There were two workshops in the spring of 1992. One was held in Hudson's Hope and the other was held in MacKenzie. The workshops included presentations by the Program Steering Committee, Program Biologists, and local stakeholders. Question and response periods allowed all parties to discuss their views on Program activities. Participants were asked to provide feedback via questionnaires on the workshop process, the Wildlife Program, and the Fisheries Program.

There were about 40 participants in each of the Public Workshops held in 1992, up slightly from 1991. The participants represented diverse groups, including rod and gun clubs, guide outfitters, trappers, naturalists, environmental groups, local government, native bands, forest companies, schools, local business, chambers of commerce and government agencies.

There were 15 presentations made by stakeholders at the Public Workshops.

Effectiveness in providing information:

Participants at this year's workshop in MacKenzie generally felt the workshop was an effective way to provide them with information on the Peace-Williston Compensation Program. On a scale of 1 to 5 (where 5 was the highest), twenty out of twenty-six rated the workshops as either 4 or 5.

WORKSHOP SURVEY FEEDBACK - Continued

Participants in the Hudson's Hope workshops felt the workshop was a very effective way for them to receive information about the Program. On a scale of 1 to 5 (where 5 was the highest rating), sixteen rated the workshops as a 5. Seven others rated the days as either 3 or 4.

Effectiveness as opportunity for input:

Participants in MacKenzie were very positive about the workshop process as a means for them to provide input into the Peace-Williston Compensation Program. On a scale of 1 to 5 (where 5 was the highest), eighteen rated the workshops as a 5 and eight rated the process as a 4, indicating strong support for this aspect of the workshop process.

Hudson's Hope workshop attendees also found the workshops to be effective ways for them to provide input into the Compensation program, with sixteen out of twenty-three rating the day as a 5 out of a possible 5.

Hudson's Hope participants felt the following three locations were preferable as future workshop locations:

Hudson's Hope
Fort St. John
Chetwynd

MacKenzie participants felt the following three locations were preferable as future workshop locations:

Mackenzie
Hudson's Hope
Prince George

Both MacKenzie and Hudson's Hope participants suggested the following three methods as most favored ways to communicating with the public:

Annual Workshop
Newsletters
Public Open Houses

A number of participants noted that advertising the workshops more widely might be a way to encourage broader participation. Several respondents felt that native groups in particular need to be better represented.

PROGRAM ACTIVITY FEEDBACK

Opinions on management strategies offered at both the MacKenzie and Hudson's Hope workshops were as diverse as the more than eighty participants themselves. Environmental groups, hunters, trappers, fishermen, naturalists and others all had an opportunity to express their concerns and interests in the Peace-Williston Compensation Program's operation. While the divergent views conflicted at times, there were also times when support for a particular opinion seemed widely-based. The following list notes those issues which were brought up at both workshops, by more than one stakeholder.

Key Findings For Both Workshops

Participants in both workshops voiced an interest in getting more information regarding program expenditures, administration costs, budgets, etc.

People expressed a generally consistent view that the program must take an integrated resource management approach to program activities, and consider all fish and wildlife actions from a biodiversity standpoint.

Both workshops had stakeholders reiterate the value of tourism in the area, and suggested that activities be undertaken to encourage/support local tourism efforts.

Participants stressed the need to communicate and cooperate with local residents to make the program as effective as possible. Groups such as trappers, guide outfitters and naturalists offered to share their considerable experience and insights on the area.

Both workshops heard the concern that there should be increased native participation in the program.

People were concerned that the Program be coordinated with regular B.C. Environment operations, both in terms of activities and budgets.

Generally, people felt that the public participation through the workshops was important and efficient in achieving an effective level of public input into Peace-Williston Compensation Program planning and activities.

There is still a desire among participants to increase the amount of action activities relative to the study component of the program.

Stakeholders in both workshops were concerned about possible contaminants, such as mercury and PCB's in reservoirs, and potential impacts on local residents.

PROGRAM ACTIVITY FEEDBACK - Continued

In addition to these concerns, a number of comments/questions pertaining to the fish and wildlife programs were raised. Some of these issues were raised at only one workshop, since interests/concerns were geographically-specific. A list of these comments follows.

Fish Program Feedback - Hudson's Hope

Is it possible to improve the fishery in Dinosaur Lake, perhaps with larger fish?

Please re-consider building a fish hatchery on Dinosaur Lake, not only for the fish stocking program, but also for tourist value.

Does stream fertilization create negative impacts, such as salinity or PH changes, downstream?

Brian Blackman is doing a good job with the fisheries programs.

Consider stocking Wright and Carbon Lakes with suitable fish.

Create an educational program to promote catch and release fishing.

Post signs warning of the danger of consuming too much fish in areas where mercury bioaccumulation is a concern.

There is a concern that fish populations in the Williston basin are declining at a rapid rate, and stocking programs are not keeping pace.

PROGRAM ACTIVITY FEEDBACK - Continued

Fish Program Feedback - MacKenzie

Are mercury levels in the reservoir rising?

Are PCB's a problem in the Williston drainage?

Have there been studies done to understand the long-term impacts on fish of pollutants and contaminants?

Can the fishing in Morfee Lake be improved, perhaps through stocking?

Please do an inventory of the fish in the Anzac and Table River watersheds. Can anything be done to improve the Grayling and Rainbow stocks in these rivers?

Consider installing fish ladders on the south Table River falls to allow Bull Trout and Grayling to escape pressures of overfishing.

What have been the results of the Kokanee stocking program?

Wildlife Program Feedback - Hudson's Hope

Did the death of the transplanted Stone Sheep negate the effectiveness of the overall transplant effort?

Have any studies been done on predators?

Does burning benefit all species, and if not, why such a focus on ungulates? What are the side-effects of burning? Is burning really necessary or helpful?

Have you considered studying the Caribou on the south side of the reservoir?

PROGRAM ACTIVITY FEEDBACK - Continued

Wildlife Program Feedback - Hudson's Hope

From an environmental perspective, the current management initiatives constitute a further environmental impact and intrusion and endangering of wildlife.

Do not manage and enhance only the large game animal species.

Consider hiring more help for the wildlife program.

Suggest doing habitat studies for grizzly, sheep and caribou populations.

Could a bald eagle viewing site be constructed at Gething Creek, as part of an effort to compensate non-consumptive users?

Increase efforts to improve beaver habitat.

Its important to manage people, not wildlife.

Considering the huge impact of logging on the basin, why is the Ministry of Forestry not represented here?

Generally, it seems the program is on track, and we appreciate your efforts.

Wildlife Program Feedback - MacKenzie

The trappers who work in the area feel they have important information on the region's wildlife, and would like to have contact with program staff.

What plans exist for improving the habitat in the Nation river, especially from the headwaters to the canyon?

Are there any plans to burn the blow-down on the Akie River for habitat improvement?

Have you considered using bird platforms as a habitat improvement measure?

Is there any damage to soils that results from burning?

PROGRAM ACTIVITY FEEDBACK - Continued

Wildlife Program Feedback - MacKenzie

Has there been a down-sizing in the staffing of the wildlife program? Can people be replaced faster? Why are they leaving?

Is there forage enhancement planned in the upper Parsnip River area?

How many elk were relocated by the Hudson's Hope Rod & Gun club, and how are they doing?

Is there a planning process when new areas of logging are contemplated?

What about wildlife protection for highways and railroads?

Could the Environment Ministry do a grizzly inventory in the Anzac area?

The resource companies shouldn't avoid the responsibility of fixing their environmental impacts by getting the Peace-Williston Compensation program to mitigate such impacts. The resource companies need to be paying their share.

Is there a role for predators in the system, and how does the program address them?

The 3 to 4 meter trees seem insufficient for bird habitat, and the islands are too small and too far apart. Can this be researched?

It is vital that you do the wildlife inventories before logging occurs, not after - then the results can be used for the development plan.

WORKSHOP PARTICIPANT PRESENTATIONS

Presentations were made by a number of participants at both workshops, including:

Hudson's Hope

- Ray Cunningham, District of Chetwynd
- Jim Derby, Chetwynd Rod & Gun Club
- Chief George Desjarlais, West Moberly Band
- Carl Gitscheff, Peace Liard Wildlife Association; Dawson Creek Trappers Association
- Van Krichbaum, North Peace Nature Club
- Ken Kyllo, Guide/Outfitter
- Andrew Larstone, Northern Environmental Action Team
- Leo Rutledge, Peace Valley Environmental Association
- Ian Smith, Chetwynd Environmental Society
- Allan Young, Northern Guides Association

MacKenzie

- Leonard Pickering, Peaceful Valley Wilderness Outfitters
- Ken Kyllo, Guide/Outfitter
- Robert Quaedulieg, MacKenzie/McLeod Lake Trappers Association
- Sandra Kinsey, Prince George Naturalists

(viii) 1992/93 Public Consultation Report, 1 August 1993 - Excerpt - 1992/93 Public Consultation activities.

PWFWCP Report No. 27: p. 14-22.

1992/93 PUBLIC CONSULTATION ACTIVITIES

The goal of the 1992/93 public consultation program was to broaden public awareness and understanding of the Compensation Program. Therefore workshops were not held this year, in favour of the broader appeal of community open houses.

Highlights of the public consultation activities of the program over the past year include:

production of two "Natureline" newsletters,
* four community open houses,
* mall displays,
television, radio, newspaper coverage, and
meetings with interest groups.

While valuable public feedback was obtained from all the consultation activities, interest group meetings and results from a public opinion survey completed by attendees of the four community open houses, provided the most detailed public input. Results of this survey are shown in Appendix 8.

PUBLIC CONSULTATION ACTIVITY HIGHLIGHTS

INTEREST GROUP MEETINGS

21 April/92	Spruce City Fish & Wildlife Meeting Provided outline of Fisheries Program	Prince George
23 May/92	MacKenzie Fish & Game Association Meeting Club assisted in habitat enhancement project on Dina Creek	Dina Creek
13 June/92	Mackenzie/McLeod Lake Trappers Association Review of aquatic furbearer project, with emphasis on specific enhancement locations and methods presented by the trappers. Concern expressed over the amount of herbicide spraying occurring on cutblocks.	McLeod Lake
10 July/92	B.C. Hydro Environmental Resources Meeting Summary of Peace/Williston Fisheries Comp. Program	Vancouver
22 October/92	Tsay Keh Dene Community Meeting Presented an overview of our Compensation Program (Wildlife issues). Discussed some transplant issues, and obtained information on local wildlife distributions.	Tsay Key Dene
29 October/92	MacKenzie Fish & Game Association Meeting Review of proposed 1993 Dina Creek enhancement project. $1700 donation from club received with gratitude. Additional funding options assessed.	Mackenzie

20 November/92	Omineca LRUP Meeting	Germanson Landing
	Presented overview of caribou habitat selection research & migration patterns, and other projects.	
25 November/92	Mackenzie Fish & Game Association Meeting	Mackenzie
	Review of 1993 Dina Creek enhancement project, volunteer time assessment.	
15 December/92	Spruce City Wildlife Association Meeting	Prince George
	Presentation of wildlife compensation program activities.	

MEDIA & MALL DISPLAY COVERAGE

06 June/92	Prince George Environment Week Display	Prince George
	Pine Centre Mall - Display of Fisheries & Wildlife Compensation Program Projects and Question Period	
17 July/92	News Release:	
	Monitoring of the cavity-dependent wildlife enhancement project in the Mackenzie region. Testing of several alternate forest harvesting techniques to determine the most beneficial logging practice.	
September/92	C.K.P.G. & CBC - TV two feature news stories on:	
	Dina Lake Fisheries Enhancement Project. Provincial and National news broadcasts on CBC-TV.	
01 September/92	C.K.M.K. Radio & C.K.P.G. TV Interviews	Mackenzie
	Stocking of Dina Lakes #3 and #7.	
02 September/92	C.K.M.K. Radio Interview	Mackenzie
	Discussion on various projects in Mackenzie area.	
05 September/92	Westland TV Series	Hudson's Hope
	Footage of Carbon Creek Side Channel and Carbon Creek Project for Westland episode on the Compensation Program to air in 1993.	

October/92	Prince George Citizen - publication Annual hunting supplement featuring several articles on wildlife program.	Prince George
19 October/92	C.K.M.K. Radio Interview Discussed 1992 fisheries program field activities.	Mackenzie
6 January 1993	CBC Radio Interview Radio personnel accompanied wildlife staff on radio telemetry flight and produced story.	Omineca

PUBLICATIONS

The "Peace/Williston NatureLine" is a public information newsletter published by B.C. Hydro and B.C. Environment, with a distribution reaching 800 individual residents and 40 interest groups in the area. "People" was an internal B.C. Hydro publication distributed to 6,500 employees.

October/92	Natureline Issue #3
November/92	Public Consultation Report Summarizes public consultation activities for 1991/92.
November/92	People
March/93	NatureLine Issue #4

1993 COMMUNITY OPEN HOUSES

Location	Date	Attendees
Fort St. John	24 March/93	38
Chetwynd	25 March/93	19
Prince George	14 April/93	66
MacKenzie	15 April/93	50

HIGHLIGHTS OF THE 1993 COMMUNITY OPEN HOUSES SURVEY RESULTS

FISHERIES PROGRAM

1. Small lakes and rivers were favoured fishing locations in all areas surveyed.

2. There was positive support for a total catch and release on some river systems.

3. In all communities, the Peace/Williston Compensation Fisheries Program habitat enhancement efforts were considered to be "about right" for rivers, reservoirs and small lakes.

4. The fish species anglers prefer to catch in order of preference is:

    * Rainbow trout
    * Bull trout
    * Arctic grayling
    * Kokanee/Walleye (Tie)
    * Lake trout

WILDLIFE PROGRAM

1. Of those people surveyed, the majority felt there was NOT too much emphasis on ungulates by the Peace/Williston Compensation Wildlife Program.

2. The majority of respondents wanted to see MORE multi-species projects, i.e. bio-diversity studies and studies or enhancements for rare and/or endangered species.

3. On the abundance and distribution of smaller wildlife species in the Williston watershed, the MAJORITY of respondents AGREED that:

    * inventories for small mammals (eg. hares, voles, mice) bats, amphibians, reptiles and others SHOULD BE conducted;

    * raptor or upland game bird inventories SHOULD BE undertaken; and that

    * enhancement projects SHOULD BE initiated for these species.

PUBLIC CONSULTATION PROGRAM

1. On the effectiveness of the open house to provide them with information on the Peace/Williston Fish and Wildlife Compensation Program, out of 54 replies:

   * 45 rated it as VERY EFFECTIVE or EFFECTIVE;
   * 9 were less enthusiastic;
   * NO respondents rated it "NOT EFFECTIVE".

2. On the effectiveness of the open house to provide an opportunity for individuals to have input to the Peace/Williston Fish and Wildlife Compensation Program, out of 50 replies:

   * 32 rated it VERY EFFECTIVE or EFFECTIVE;
   * 12 rated it AVERAGE;
   * 4 were less enthusiastic, with 2 respondents rating it NOT EFFECTIVE.

3. In regard to the preferred ways and means of providing information and obtaining public input, responses varied but there was strong support for:

   * Annual open houses;

   and either

   * Annual one-day workshops or workshops and open houses in alternate years.
   * Newsletters and surveys by mail were also favoured.

Annual open houses and club presentations are seen to be effective means of providing information to the larger public, while interest groups and individuals affected by the program seem to prefer workshops as a means to ensure a broad integrated approach to provide valued input to the program.

Some comments and observations by open house visitors:

* Concern expressed for impacts downstream of the dams; "Why are there no Compensation Programs for this area?"

* General lack of public awareness of Compensation Program and of open houses; suggest targeting schools.

* Support for land purchases, especially Beattie property near Hudson's Hope.

* Opportunity expressed to work in partnership with Parks Branch on wildlife inventories in Williston parks and protected areas.